

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed October 30, 2006. Claims 1-28 are pending in the application. Claims 1-28 stand rejected. Applicants amend Claims 1, 9, 10, 12-16, 22, 23, and 25-28. Applicants respectfully request reconsideration and favorable action in this case.

Section 112 Rejections

The Office Action rejects Claims 1-28 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Although Applicants traverse, in order to expedite prosecution, Claims 1, 12, 16, and 25 have been amended to address these rejections. Applicants submit that amended Claims 1, 12, 16, and 25 are definite and respectfully request that the rejections under 35 U.S.C. §112, second paragraph, be withdrawn.

Section 101 Rejections

The Office Action rejects Claims 15 and 28 under 35 U.S.C. §101 as being directed to non-statutory subject matter. Applicants respectfully traverse these rejections.

The patent laws define patentable subject matter as “any new and useful process, machine, manufacture or composition of matter, or any new and useful improvement thereto.” *See* 35 U.S.C. §101. When an abstract idea is reduced to a practical application, the abstract idea no longer stands alone if the practical application of the abstract idea produces a useful, concrete, and tangible result. This then satisfies the requirements of 35 U.S.C. §101. *See In re Alappat*, 33 F.3d 1526, 1544, 31 U.S.P.Q. 2d 1545, 1557 (Fed. Cir. 1994); *see also State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373, 47 U.S.P.Q. 2d 1596, 1601-02 (Fed. Cir. 1998). Thus, producing a useful, concrete, and tangible result is the key to patentability according to *State Street* and other applicable case law. Claims 15 and 28 clearly recite a useful, concrete, and tangible result. For example, Claim 15 discloses a computer data signal which embodies instructions executable by a computer to “identify one or more relevant features, by using the relationship measure for each local region.” As another example, Claim 28 discloses a computer data signal which

embodies instructions executable by a computer to “determine a relevancy of a selected feature by performing a weighted sum of the relationship measures for the feature over the plurality of local regions at appropriate levels.” Therefore, Claims 15 and 28 are directed to patentable subject matter.

The Office Action contends that a signal embodying functional descriptive material is “neither a process nor a product (i.e., a tangible ‘thing’) and therefore does not fall within one of the four statutory classes of §101.” *See Office Action*, page 3. However, it is a well settled principle of patent law that electrical signals constitute statutory subject matter. *See MPEP 2106(IV)(B)(1)(c)*, page 2100-14, citing *O’Reilly v. Morse*, 56 U.S. 62. Further, the Official Gazette Notice of November 22, 2005, Annex IV(c) states:

[F]rom a technological standpoint, a signal encoded with functional descriptive material is similar to a computer-readable memory encoded with functional descriptive material, in that they both create a functional interrelationship with a computer. In other words, a computer is able to execute the encoded functions, regardless of whether the format is a disk or a signal.

Therefore, assuming for the sake of argument that the law requires something more than a useful, concrete, and tangible result (which, as described above, it does not), Applicants submit that the Official Gazette properly indicates that a computer data signal constitutes statutory subject matter. For at least these reasons, Applicants respectfully submit that Claims 15 and 28 recite patentable subject matter. Thus, Applicants respectfully request that the rejections of Claims 15 and 28 be withdrawn.

Section 102 Rejections

The Office Action rejects Claims 1-11, 13-24, and 26-28 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,341,282 issued to Yamakawa et al (“*Yamakawa*”). Applicants respectfully traverse these rejections for the reasons stated below.

Claim 1 is directed to a method for feature selection based on hierarchical local-region analysis of feature characteristics in a data set that includes partitioning a data space associated with a data set into a hierarchy of pluralities of local regions. A relationship measure for each local region is evaluated using a metric based on similarity between input

features and a selected output. One or more relevant features are identified by using the relationship measure for each local region.

The Office Action rejects Claim 1 and contends that each of the limitations of Claim 1 is disclosed by *Yamakawa*. However, the portions of *Yamakawa* cited by the Office Action fail to teach, disclose, or suggest “partitioning a data space associated with a data set into a hierarchy of pluralities of local regions.” *Yamakawa* discloses a data decomposition method that extracts partial data from whole data. *See Yamakawa*, Column 2, lines 34-36. The extracted partial data are not partitioned in a hierarchy, but instead are divided into “scattered segments.” *See Yamakawa*, Column 5, lines 29-46. Thus, *Yamakawa* does not teach, disclose, or suggest partitioning a data space associated with a data set into a *hierarchy* of pluralities of local regions, as required by Claim 1.

Moreover, even assuming for the sake of argument only that the scattered decomposition of data disclosed in *Yamakawa* could be equated with partitioning data into a hierarchy of pluralities of local regions recited in Claim 1, *Yamakawa* would still fail to teach, disclose, or suggest “evaluating a relationship measure for each local region using a metric based on similarity between input features and a selected output,” as recited in Claim 1. The Office Action relies upon the matchability-oriented feature selection of *Yamakawa* as disclosing this limitation. *See Office Action*, page 4. As disclosed in *Yamakawa*, matchability is a concept that compares two input features to determine the strength of correlation between *the two input features*. *See Yamakawa*, Column 7, lines 12-14. However, *Yamakawa* does not teach, disclose, or suggest measuring similarity between input features and a *selected output*, as required by Claim 1. For at least these reasons, Applicants respectfully contend that *Yamakawa* does not disclose each of the limitations of Claim 1. Applicants respectfully request that the rejections of Claim 1 be withdrawn.

Similar to Claim 1, Claims 13-16 and 26-28 each include limitations related to “partitioning a data space associated with a data set into a hierarchy of pluralities of local regions” and “evaluating a relationship measure for each local region using a metric based on similarity between input features and a selected output.” For at least those reasons discussed above with regard to Claim 1, Applicants respectfully contend that *Yamakawa* does not

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disclose each of these limitations. Therefore, Applicants respectfully request that the rejection of Claims 13-16 and 26-28 be withdrawn.

Claims 2-12 and 17-25 each depend from Claims 1 and 16 respectively and incorporate all the respective limitations thereof. Therefore, Applicants respectfully contend that Claims 2-12 and 17-25 are each patentably distinguishable from *Yamakawa* for at least the same reasons as discussed above with regard to Claim 1.

Conclusions

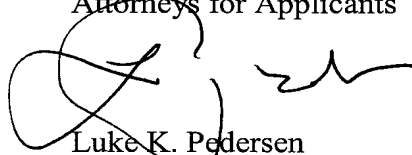
Applicants have made an earnest attempt to place this case in condition for allowance. For the foregoing reasons, and for other apparent reasons, Applicants respectfully request full allowance of all pending Claims. If the Examiner feels that a telephone conference or an interview would advance prosecution of this Application in any manner, the undersigned attorney for Applicants stand ready to conduct such a conference at the convenience of the Examiner.

Applicants acknowledge additional filing fees due in the amount of \$1,000.00 and have attached a separate Transmittal calculating such fees and authorizing the Commissioner to charge the amount of \$1,000.00 to Deposit Account 02-0384 of BAKER BOTTS L.L.P.

Although Applicants believe no additional fees are currently due, should there be a fee discrepancy, the Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 02-0384 of BAKER BOTTS L.L.P.

Respectfully submitted,

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